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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/327,282 06/04/99 JEONG

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EXAMINER

NGUYEN, K

ART UNIT

PAPER NUMBER

2674

DATE MAILED:

07/13/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/327,282

Applicant(s)

JEONG ET AL.

Examiner

Kevin M. Nguyen

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-6 and 13-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 3-6 and 13-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

1. The amendment filed on 5/14/2001 is entered. However, claims 3-6 and 13-30 have been rejected in view of the newly discovered prior art of Osada et al (US 5,781,168) and Ohta et al (US 6201590) below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Osada et al.

4. As to claims 3-6, Osada teaches a method of driving voltage waveform the driving voltage V_w varies the pulse widths T_{wi} ($i=1, 2, \dots, N$) (a width enlarge and a different width) of the pulses applied to the column electrodes according to the display data to create various gray levels. Where the application of the driving voltage V_w to the column electrodes 201-200+N is ended, the starting point of the application of the column electrode driving voltages is controlled so that the application of the driving voltage V_w , persists until the row electrode driving voltage waveform 611 ceases as shown in FIG. 1. That is, each electroluminescent cell is activated when the driving voltage V_w is applied to the column electrodes after the row electrode driving voltage - V_{th} is prepared (see figure 7 and 8, col. 5, lines 46-57) corresponding to the claimed

supplying data signal voltage having a width enlarged in accordance with a position at the scanning wire to the signal wires.

5. As to claims 13-22, Osada teaches a circuit which has a high voltage is produced in a portion A that is the power supply circuit for the column electrode driving circuits.

With the prior art circuit configuration, there is the possibility that the power supply circuit is deteriorated or destroyed by an overvoltage. In the present invention, however, this power supply circuit delivers and absorbs electrical current.

Consequently, the surge voltage induced in the portion A in FIG. 4 is absorbed, whereby the voltage is regulated. Accordingly, neither the electroluminescent cells nor the column electrode driving circuits present problems. FIG. 5 shows an example in which a regulated-voltage source V_w is equipped with a zener diode to absorb an overvoltage. In this structure, the overvoltage generated in the portion A of FIG. 4 is absorbed. Of course, any circuit configuration yields similar advantages as long as the power supply is designed to deliver and absorb electric current. It is to be noted that the driving circuits shown in FIG. 4 are only parts of the structure (see col. 6, lines 1-18). It would have been obvious to a person of ordinary skill in the art to recognize that Osada discloses width control means for allowing the scanning signal voltage to have a different width in accordance with a position at the signal wire as claimed (by virtue of the operation described at col. 6, lines 1-18).

6. Claims 23-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Osada et al in view of Ohta et al (US 6,201,590).

7. As to claims 23-26, Osada teaches all of the claimed limitations of claims 3-6, except for a plurality of scanning driver integrated circuit and a plurality of data driver integrated circuit. However, Ohta teaches a related driving system for LCD which includes FIG. 21 is a top view illustrating a state where a video signal (drain) driver unit H and a vertical scanning (gate driver) unit V are connected to the display panel PNL shown in FIG. 10. Symbol CHI denotes driver IC chips (the lower five are driver IC chips on the side of the vertical scanning circuit, and the left ten are driver IC chips on the side of the video signal driver circuit) for driving the display panel PNL. Symbol TCP denotes tape carrier packages in which driver IC chips are mounted by a tape-automated-bonding method (TAB), and PCB1 denotes a driver circuit substrate on which-TCPs and capacitors are mounted, which is divided into two for the video signal driver unit and the scanning signal driver unit (see col. 32, lines 9-21). FIG. 22 is a diagram illustrating, in cross section, the structure of a tape carrier package TCP in which an integrated circuit chip CHI is mounted on a flexible wiring substrate to constitute the scanning signal driver unit V and the video signal driver unit H, and FIG. 23 is a sectional view illustrating essential portions in a state where the tape carrier package TCP is connected to a terminal GTM for a signal circuit in the liquid crystal display panel PNL (see col. 32, lines 31-38). It would have been obvious to a person of ordinary skill in the art at the time invention to provide integrated circuit chip taught by Ohta in the liquid crystal display of Osada's system because this would allow the number of places or the areas where the wirings intersect is decreased, the probability of short-circuiting among the wirings is decreased, and the parasitic capacitances are

decreased among the wirings, making it possible to improve the quality of picture and to decrease the consumption of electric power by the driver unit (col. 33, lines 52-57 of Ohta).

8. As to claims 27-30, refer to the previous rejections as applied to claims 3-6 and 13-26.

9. Applicant's arguments with respect to claims 3-6 and 13-30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 form.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Nguyen whose telephone number is 703-305-6209. The examiner can normally be reached on MON-FRI from 9:00-5:00 with alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard A Hjerpe can be reached on 703-305-4709. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-306-0377 for After Final communications.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

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Art Unit: 2674

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Kevin M. Nguyen
Examiner
Art Unit 2674

KN
July 11, 2001



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SUPERVISORY PATENT EXAMINER
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